iJRASET
International Journal For Research in Applied Science and Engineering Technology

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 7 **Issue:** V **Month of publication:** May 2019

DOI: https://doi.org/10.22214/ijraset.2019.5538

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.177
Volume 7 Issue V, May 2019- Available at www.ijraset.com

Factors Causing Dispute in Construction Industry

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Abstract: ***Due to overgrowing demands and change in the work policy disputes have started arising a lot in construction industry to avoid all these its necessary to take some relative factors in to consent. Thus these paper aims to analyse the factors which cause dispute in the Indian construction sector. Where conflict is defined as "indispensable as peace, since the only reason for seeking peace is because there exist conflict, which is inevitable in the construction industry as in any other human endeavour". Accordingly the conflicts arising in the CCC i.e. client contractor and consultant is studied and the reasons of dispute are found. In order to reach these objective a literature survey was carried out to determine the cause of construction dispute. Where the factors were considered and a preliminary survey form was prepared to generate the responses. The response analysis will be carried out with the help of statistical method to determine the cause of dispute according to their importance. Thus the paper will give an idea that in which regions of the construction sector the dispute arises.***

Keywords: construction dispute, causes of dispute, Indian construction industry.

Abbreviations and Acronyms
CCC - Client, Contractor, Consultant
ADR - Alternative Dispute Resolution
ICI - Indian Construction Industry
DRB - Dispute Resolution Board
PPP - Public Private Partnerships
BOOT - Build-Own-Operate-Transfer

I. INTRODUCTION

The construction sector is a complex and competitive sector in which CCC with different views, talents and levels of knowledge of the construction process work together. Construction disputes happen fairly often; they are a reality on every construction project and could take place at any point in time during the design or construction phase of the project. There is need to know the causes of dispute in the sector to avoid delays since majority of the money is locked in the construction sector to overcome these reasons one should know the reasons of dispute between the CCC as well the authority running these case as Arbitration and Conciliation act 1996(India) for the disputes. As special provision is made in the contract for the ADR and DRB techniques.

Dispute is defined as the argument between the two persons/ or employees of same organization or other to reach one single objective with different perspectives of thinking for a project.

Conflict it is a situation which arises when the parties consider two or more competing options, responses or course of action to satisfy a particular situation when there occurs threat to their needs or concerns.

II. NEED OF STUDY

Owing to the current financial conditions and market situations have been putting the construction sector growing burden. Moving further in these situations means identifying the issues of project as much early as possible, to avoid disputes if possible or to resolve it by using the cost effective tool and in sensible manner.

III. RESEARCH METHODOLOGY

The project research is divided into two groups viz:-

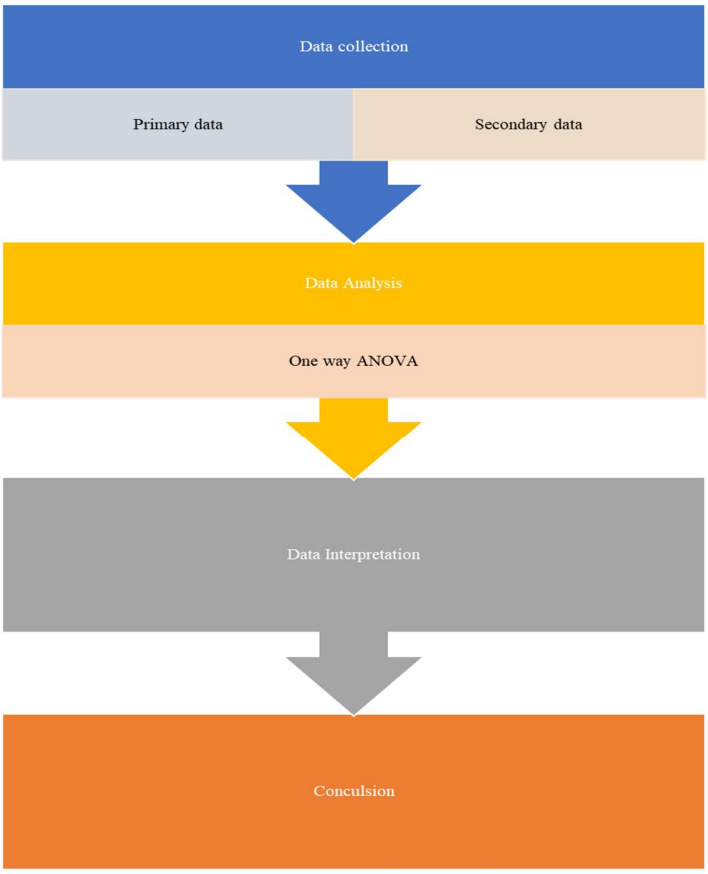
A. Primary Data

1) To prepare a questionnaire based upon the findings of literature review.
2) To prepare a google form so that the data and responses could be collected for further study.

B. Secondary Data

1) To send the google forms to the CCC working persons to get the feedback.
2) To give rank and weight to the answers rating from 1-5.
3) To solve the given output with the help of statistical methods to 1know the important factors which cause dispute.
4) To collect general idea of the statistical method which is going to be used in the solving and getting the important factors that cause dispute in the ICI.

a) Design Variations Initiated By Owner
b) Change Of Scope
c) Late Handing Over Of Possession
d) Unrealistic Expectation
e) Payment Delay
f) Delay In Work Progress
g) Time Extensions
h) Financial Failure Of The Contractor
i) Technical Inadequacy Of The Contractor
j) Quality Of Work
k) Lack Of Communication
l) Design Errors, Inadequate/ Incomplete Specification
m) Quality Of Design And Availability Of Information
n) Ambiguities In Contract Document
o) Different Interpretations Of The Contract Provisions
p) Risk Allocation
q) Other Contractual Problems



Flowchart of project methodology

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IV. DATA ANALYSIS FOR VARIANCE (ANOVA)

The One way ANOVA test can be used when we want to compare means of more than two groups of an independent variable. Where the following parameters are taken in consideration

One-Way ANOVA Table					
Source	Degrees of Freedom DF	Sum of Squares SS	Mean Square MS	F-Stat	P-Value
Between Groups	$k - 1$	SS_B	$MS_B = SS_B / (k - 1)$	$F = MS_B / MS_W$	Right tail of F(k-1,N-k)
Within Groups	$N - k$	SS_W	$MS_W = SS_W / (N - k)$		
Total:	$N - 1$	$SS_T = SS_B + SS_W$			

Between Groups Degrees of Freedom: DF = k − 1, where k is the number of groups
Within Groups Degrees of Freedom: DF = N − k, where N is the total number of subjects
Total Degrees of Freedom: DF = N − 1
Sum of Squares between Groups: SSB = Ski=1ni (xi − x) 2, where ni is the number of subjects in the i-th group
Sum of Squares within Groups: SSW = Ski=1(ni − 1) Si2, where Si is the standard deviation of the i-th group
Total Sum of Squares: SST = SSB + SSW
Mean Square between Groups: MSB = SSB / (k − 1)
Mean Square within Groups: MSW = SSW / (N − k)
F-Statistic (or F-ratio): F = MSB / MSW

Experience, Organization vs. Change of Scope

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1055.171	2	527.5854	8.1307	0.262	3.071779
Within Groups	355.4146	120	2.961789			
Total	1410.585	122				

V. INFERENCES

Results of ANOVA for “Experience vs. Factors causing disputes” conclude that “Technical inadequacy of the contractor”, “Quality of work”, “Quality of Design and availability of information” are the critical factors causing disputes in construction industry.
Results of ANOVA for “Type of organization vs. Factors causing disputes” concluded that “Delay in work progress” is the critical factor causing disputes in construction industry.
Results of ANOVA for “Experience & type of organization vs. Factors causing disputes” concluded that “Design variations initiated by owner”, “Payment delay”, “Delay in work progress” are the critical factors causing disputes in construction industry.

VI. RESULT AND DISCUSSION

As the data is analysed with the range of experience is to be taken into consideration, Most of the respondents are from 0-3 years. This helps to understand about the impact of the factors on Fresher's. It is observed from the above tables that there is significant impact on 3 factors based on the Range of experience. They are: "Technical inadequacy of the contractor", "Quality of work", "Quality of Design and availability of Information". But the employees with experience less than 3 years for the factor "Technical inadequacy of the contractor" & "Quality of Design and availability of information", being critical for causing disputes, whereas employees with experience 9 years more accept that Technical inadequacy of the contractor is critical factor. The f value shows that employees from all age group agree that "Quality of work", "Quality of Design and availability of information" are significant for causing disputes in construction industry. As the data is analysed with the Type of organization is taken into consideration, Most of the respondents are from clients. This helps to understand about the impact of the factors are from client which say "Delay in work progress", critical.

VII. CONCLUSION

The conclusions and recommendations which helps in understanding the major causes of disputes in Indian construction industry, these disputes if prevented, would improve the performance of the project. Thus from the above results of the anova we come to know the major critical factors as,

"Design variations initiated by owner", "Payment delay", "Delay in work progress", "Technical inadequacy of the contractor", "Quality of work", "Quality of design and availability of information".

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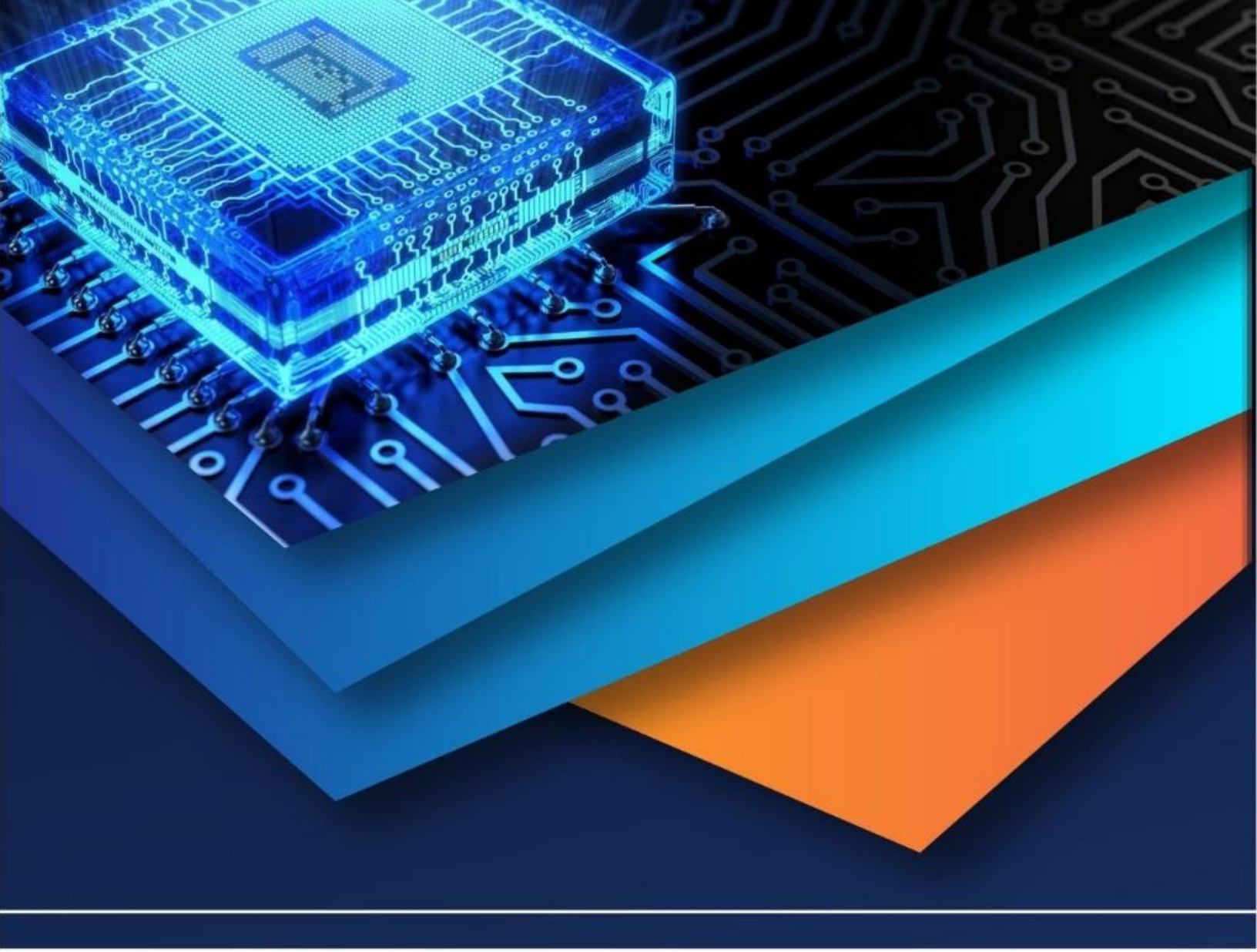

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